

**ABSTRACT**

A system on a chip (SOC voltage generator) system is provided for supplying at least one voltage level to a plurality of units on a chip having an SOC design. The system includes a plurality of local DC voltage generators distributed throughout the chip, each  
5 local DC voltage generator independently supplying voltage to at least one unit of the plurality of units, each local DC voltage generator including a regulator system outputting one pump control signal; and a pump system receiving the one pump control signal and outputting at least one voltage level in accordance with the one pump control signal. Furthermore a method for supplying voltage to a plurality of units on a chip having an SOC  
10 design is provided. The method includes the steps of distributing a plurality of local DC voltage generators throughout the chip; and supplying at least one voltage level to the plurality of units via the plurality of local DC voltage generators.